

9. Taxonomy and diversity of *Hexogonia* from the Parbhani (Aundhanagnath), Marathwada, Maharashtra (India)

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Abstract

Hexogonia of Aphyllophorales (Basidiomycota) from Aundhanagnath Parbhani Marathwada.

Hexogonia is the genus from the Aphyllophorales with 120 species in world only 41 species have been reported from India. But the present study reports 03 species. The species are each describe.

Key words : Aphyllopharales – polyporaceae – Marathwada – Maharashtra India.

Introduction

Hexogonia a genus of poroid fungi in the family polyporaceae. The genus was wide spread distribution, especially in Tropical regions. Collections proved to belongs to *Hexogonia*.

Tenuis : However, they both showed particular combinations of macro and microscopic features, described species (corner 1987), Decock 2001, Decock and Ryvardeen 2002, Ryvardeen and Johnsen (1980). They are described below. The Polypores genus *Hexogonia Tenuis* (Polyporales, Basidiomycetes in distributed in almost all the forest of the earth and very rich in species diversity. It has been extensively studied during last recent 19 yrs, because it includes some forest pathogens and medicinal fungi (Dai et al. 2007, 2009) and it is characterized by distinctly truncate, thick walled Cynophilous and Variably dextrinoid basidiospores and a dimitic structure with cyanophilus and variably dexlrinoid included in the genus (Gilbertson and Ryvardeen 1987, and Lec 1999, Decock et al 2000, 2001, 2011 Dia et al. 2002, Choeyklin et al. 2009, Cui and Zhao 2012, Decock and Ryvardeen 2013, 2015 Ryverden and melo 2014, Viacheslav and Ryvardeen 2016). Specimans were collected from Parbhani – (Aundhanagnath) and they match the characterstics of *Hexogonia* to Confirm their Taxonomic affinity and the evolutionary relationships among repretative species of *Hexogonia*, phylogenetic analysis was

carried out based on morphological data, represents and new species and it is described and illustrated in this paper.

Material and Methods

Collections of the samples was done from various location from the parbhani (Aundhanagnath) for the morphological details, thin, hard sections were taken from the cutis context and from the tube layer of each sample respectively. Spores were isolated from a block of tube layer. Technical described by steyaert (1972) to 100 sen the hyphae, the section materials was treated with 10% Koh washed with water and stained with 01% phloxine. These sections were again washed with water and finally stained with blue colton lactoglycene (50%) was used as mounting media. All the preparations were semi permanent, the slides were observed under Bausch and Lomb compound microscope having a combination of 10 x eye piece and 10x 145 oil immersion (i.e. 100x) objective. The spores were observed under Olympus Bx – 40 at 100 x objective with same photographs were taken using Olympus Bx 40 attached with photo micrography unit.

Key to species of stereurm

1. Pilear surface with long dark, stiff erect or branched hairs2
2. Pilear surface velutinate to glabrous.....03
3. Basidiocarps upto 10 mm thick, pores 1-2 per mm.H. hirta
4. Basidiocarps upto 20 mm thick, pores 2-5 mm wideH. apiaria.
5. Basidiocarps usually 2-6 cm wide, with a reddish black coating near the base; spores upto 18 cm long H. Tenuis.

Specimans described

Hexagonia apiaria (pers.) Fr.

Epicr. P. 497, 1838; polyporus apiaries pers. In Gaud, Bot. Voyage Uranie Frey P. 169, 1826

Basidiocarps : annual, solitary, sessile, mostly dimidiate with Tapering up to 10 cm long, 6cm wide, and 1-2 cm thick in the base, corky and cariaceous, pileus reniform, semicircular to flabelliform, applante to concare dark cinnamon to umber brown, darker towards base, almost greyish black with age; margin sharp and even; pore surface grey to yellowish brown, greyish brown with age, pores somewhat variable mostly 2-3 mm wide, often larger in the centre and towards the base, tubes greyish to yellowish brown, greyish to brown with age, pores some what

variable, mostly 2-5 mm wide, often larger in centre and towards the base, tubes greyish brown, up to 1 mm deep; context cinnamon to dark brown black, in 1-3 mm thick, no cuticle present in young specimens but in glabrous and older ones, upper hyphae agglutinate to dark thin cuticle.

Hyphal system : Trimitic, vegetative hyphae hyaline, with clamps, 1-5, -2.5 cm wide; Binding hyphae hyaline to yellowish, thick walled to solid, much branched 1.5-3 cm wide; skeletal hyphae dominating in the fruit body, yellowish to pale, unbranched, thick walled but mostly with a distinct lumen, 2-4.5 cm wide; Cystidia absent Cystidioles often projecting into the hymenium; hyphal pegs absent; Basidia mostly collapsed 20-30 cm long, 4-sterigmate; basidiospores Cylinerical, hyaline smooth 11-14.5 (15) x 4.5-6 cm.

Habitat : on stumps, logs, thin branches of dead hard woods.

Remarks : A. and N. Islands, Western ghats and Arunachal Pradesh, Africa, Maxico, S Austrilia, Japan, China, Brazil, Pakistan, India.

Hexagonia hirta (Fr) Fr.

Epicr Syst. Mycol. P. 497, 1838, polyporus hirtus Fr. Syst. Mycol 1 : 345, 1821; Polyporus wightii kl. Linnaea 1 : 200, 1832. Hexagonia sinensis fr. Syst. Mycol. I. 345, 1821.

Basidiocarps : annual, solitary to imbricate 3-8 cm broad, 2.5-6 cm wide and 2-10 mm thick near the base consistency coriaceous to corky; pileus dimidiate to flabiliform, slightly convex to rarely applanate; upper surface dark brown to almost black, first densily covered with up to 7 mm long dark hairs, with age pently; pore layer fuscous to dark brown; pores angular; often radially elongated 1-2 per mm dessepiments thin to rather thickwalled - entire or very rarely laurate; context ferrugineous to light brown, darkening in Kolt, 1-5 mm thick.

Hyphal System : Trimitic generative hyphae clamped, hyaline and thin walled 1.5-2.5 cm wide; skeletal hyphal abundant, yellow to brown, thick walled but always with a distinct lumen, 3-5 mm wide; binding hyphae hyaline to yellowish brown with slightly thickened walls, often much branched to coralioid 1.5-2.5 cm wide, pilear hairs are built up of coarsely inter voven skeletal and generative hyphae closely agglutinated Cystidia; not present; Basidiospores Cylinerical, hyaline, smooth, thinwalled 11-16 x 4-56 cm.

Habitat : On dead hardwood through out the forest.

Remarks : Java, Brazil, China, Japan, Mexico, Indonisea, Phillipines, Austriliya, South Africa, Pakistan, Nepal, India.

Hexogonia Tenuis (Hook) er.

Epicr. Syst. Mycolp 498, 1838; Boletus Tenuis Hook, in Kunth, Syn pl. 1 to : 1822; Hexogonia discoponda par. And Hari. Bull. Soc. Mycol. Fr. 9:209, 1890, Hexogonia tricolor fr. Epicr, syst. Mycol 498, 1838.

Basidiocarps : annual to perennial, solitary or in clusters, pileate, broadly to narrowly attached to almost spatulate, 2.6 cm broad and wide and 1-3 mm thick near the base. Papery thin consistency, flexible and coriaceous, when dry; pileus dimidiate, flabelliform to semicircular, flat when fresh, often bent when dry; upper surface glabrous, usually strongly concentrically zoned, ochraceous to pale stuff brown or pale umber to darker bay to even sepia, some specimens have from the base or point of attachment red to dark or even black black, cuticle or coating spreading towards the margin, the red coating is usually more rapidly wrinkled than under lying pilear surface which, however can be rapidly striate, red coating can be varying size from almost completely covering the pileous to any a dark zone or lacking in the same collection; margin papery thin, slightly depressed, waxy entire or lobed; pore surface small brown to milky coffee coloured often with a greyish to ashy – bluish tint; pores angular to hexagons, very variable, mostly 1-2 per mm, but large and smaller also occur; Tubes up to 2 mm long; with or without hyphal pegs; context upto 1 mm thick, dark brown, rusty brown to stuff brown.

Hyphal system : Trimitic; generative hyphae clamped, hyaline and thin walled 1.5-3 µm wide, often collapsed; skeletal hyphae yellow to pale brown, thick walled with indistinct lumen, often swollen in Kolt, 3-6 µm wide, coralloid to little branched; the read catiae seems to be built up to skeletal hyphae; Gstidia none; Basidia collapsed, 4 sterigmate; Basidiospores Glinorical, hyaline, thick walled (12) 14-18 (19) x 4.5-6.5 µm.

Habitat : A common species usually on dead thin branches of hardwoods.

Specimens examine :

Remarks : South Africa, Brazil, Mexico, Cuba, Austrilia, U.S.A, Japan, China, Islands, Nepal, Pakistan, India.

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